



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,129	07/08/2003	Norio Hirai	2565-0272P	6011

2292 7590 07/27/2005

BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER

CHANG, SUNRAY

ART UNIT PAPER NUMBER

2121

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/614,129

Applicant(s)

HIRAI, NORIO

Examiner

Sunray Chang

Art Unit

2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 July 2003.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-5 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 08 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 20031006.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

1. Claims 1 – 5 are presented for examination.

Claims 1 – 5 are rejected.

**Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1 – 5 are rejected** under 35 U.S.C. 102(e) as being anticipated by Marion A. Keyes (U.S. P.G. Pub. No. 2004/0204775, and referred to as **Keyes** hereinafter).

**Regarding independent claims 1 and 5, Keyes teaches, [for example, 0008, 0019 – 0020, 0022 – 0023, 0025 – 0033, and 0036 – 0039]**

- An optimal operation controller of a plant [process control system ... to provide for better or more optimal control of the process and to provide a better understanding of the condition which lead to maximum profitability of the plant, Abstract] comprising:

Art Unit: 2121

- a correlation analyzing unit for obtaining correlation between a state of predetermined process and each element based on an operation status of the plant to be controlled, [use the economic models to determine useful economic parameters or information associated with the actual operation of the process plant at the time the plant is operating, 0008]
- storing the correlation in a correlation table, data collection related to the operating status of the devices, 0019] and
- computing operation efficiency for the each element based on the operation status of the plant; [the economic models, which maybe stand along models or models integrated in other application, such as diagnostic or optimization applications, use this data, along with data from the process control system to determine profitability of the plant in an on-line manner, 0027]
- a categorization efficiency table for storing the operation efficiency of the predetermined process computed by the correlation analyzing unit; [constructing models to accurately reflect the economic state of the process, 0037] and
- an optimal pattern searching unit for referring to the categorization efficiency table [economic models, 0008] based on a data input from the plant [actual operation of the process plant, 0008] and outputting an instruction to control the each element [financial statistics can be used to drive alarms and alerts within the process network and be used as inputs to process plant optimizers, to provide for a better understanding of the condition which lead to maximum profitability of the plant. 0008].

**Regarding dependent claim 2,**

Art Unit: 2121

The optimal operation controller of the plant of claim 1, wherein:

- the categorization efficiency table stores the operation efficiency for an element [device] and the operation efficiency of an entire plant [process plant], and the optimal pattern [efficiency numbers] searching unit controls the each element in consideration of the operation efficiency of the entire plant. [0008, 0032 and 0037]

**Regarding dependent claim 3,**

The optimal operation controller of the plant of claim 1, wherein

- the correlation analyzing unit categorizes the correlation between the state of the predetermined process and the each element into specific steps based on the data input from the plant to be controlled and writes the correlation in the correlation table. [use the economic models to determine useful economic parameters or information associated with the actual operation of the process plant at the time the plant is operating, 0008]

**Regarding dependent claim 4,**

The optimal operation controller of the plant of claim 3, wherein

- the categorization efficiency table stores an approximated curve generated by the categorized correlation, [Fig. 6, 7 and 9] and
- the optimal pattern searching unit outputs the instruction by referring to the approximated curve. [determining how to change a process control scheme or configuration or what to fix within a process control plant, to obtain the most financial impact, 0109]

Art Unit: 2121

**Conclusion**

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Eryurek et al. (U.S. P.G. Pub. No. 2005/0007249) discloses an operational status information, a process entity, a process plant, mapping, and a plurality of status conditions. Iino et al. (U.S. Patent No. 5,873,251) discloses adjusting the energy production scheduled by the energy production scheduling means on the basis of information relative to the energy; and means for outputting the energy outside of the plant according to the energy production schedule adjusted by the energy production schedule adjusting means.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sunray Chang whose telephone number is (571) 272-3682. The examiner can normally be reached on M-F 7:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on (571) 272-3687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-746-3506.

Sunray Chang  
Patent Examiner  
Group Art Unit 2121  
Technology Center 2100  
U.S. Patent and Trademark Office

July 19, 2005

*Ramesh Patel*  
RAMESH PATEL  
PRIMARY EXAMINER  
*7/25/05*  
*For Anthony Knight*